

SYSTEMATIC STUDY OF THE *KOANOPHYLLON PALMERI*
COMPLEX (ASTERACEAE: EUPATORIEAE)

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ABSTRACT

The *Koanophyllon palmeri* complex is treated as consisting of three taxa: *K. palmeri* (A. Gray) King & H. Rob. var. *palmeri*; *K. palmeri* var. *tonsa* (B.L. Rob.) B.L. Turner, **comb. nov.**; and *Koanophyllon pochutlana* B.L. Turner, **sp. nov.** A phototype of the latter is provided, along with distribution maps, and a key to the taxa concerned. *Phytologia* 94(2): 193-198 (August 1, 2012).

KEY WORDS: *Eupatorium*, *Koanophyllon*, *K. palmeri*, Asteraceae, Eupatorieae, Mexico

Routine identification of Mexican comps has occasioned the present paper.

In my seminal treatment of the tribe Eupatorieae for Mexico, I treated *Koanophyllon* within the broad fabric of *Eupatorium* (Turner 1997). I have subsequently come to accept the fragmentation of that genus, as espoused by King and Robinson (1987).

Key to the *Koanophyllon palmeri* complex:

1. Heads with 10-11 florets; inner bracts broadly ovate, ca twice as long as wide; Oax.....**K. pochutlana**
1. Heads with 4-6(7) florets; inner bracts narrowly ovate, ca 3 times as long as wide; Son to Gue.....**K. palmeri** (2)
2. Involucral bracts mostly 1-2 mm long; pappus bristles ca 1.5 mm long**var. tonsa**
2. Involucral bracts mostly 2.6-4.0 mm long; pappus bristles 2.5-3.5 mm long**var. palmeri**

var. PALMERI (A. Gray) King & H. Rob., *Phytologia* 22: 150. 1971.
Eupatorium palmeri A. Gray, *Proc. Amer. Acad. Arts* 21: 383. 1886.

TYPE: MEXICO. CHIHUAHUA: **Mpio. Batopilas**, mountains above Batopilas, Aug-Nov 1885, *Palmer 144, 260* (Lectotype: *Palmer 144*, GH!)

Son, Chi, Sin, Dur, Jal, Col and closely adjacent USA, barrancas, in mostly pine-oak forests, 10-1700 m; Sep-Nov. **Fig. 2**

Slender arching shrub or shrublets 1-3 m high. **Stems** striate, puberulent. **Leaves** thin, opposite, 5-12 cm long, ca 2.5 cm wide; petioles 5-20 mm long; blades ovate-lanceolate, 3-nervate from or near the base, puberulent and glandular-punctate beneath, the margins crenulate to serrulate, the apices attenuate. **Capitulescence**, a terminal, congested corymbose-panicle, the ultimate peduncles mostly 0-1 mm long. **Heads**, 5-6 mm high; corollas, cream, whitish, yellowish or reddish-brown, ca 3.5 mm long. **Receptacles** ca 0.3 mm across, glabrous. **Involucres** mostly 3-4 mm high; inner bracts 3-4 mm long, ca 0.6 mm wide, mostly 3-nervate. **Florets**, 4-7 per head. **Achenes** 2.0-2.5 mm long, hispidulous; pappus of 40-50 bristles, 2.5-3.5 mm long.

McVaugh (1984) placed this taxon in synonymy under his broad concept of *Eupatorium solidaginifolium* A. Gray [= *Koanophyllon solidaginifolium* (A. Gray) King & H. Rob.], a decidedly different species of more eastern distribution. He also neglected to account for the var. *tonsa*.

var. TONSA (B.L. Rob.) B.L. Turner, **comb. nov.**

Based upon *Eupatorium palmeri* var. *tonsum* B.L. Rob., *Proc. Amer. Acad. Arts* 42: 43. 1906.

TYPE: MEXICO. GUERRERO: "El Ocote," 300 m, 10 Nov 1998, *E. Langlasse 616* (Lectotype GH!, selected here; photolectotype, TEX!)

Pacific slopes, s Sin, Nay, Jal, Col, Mic, Gue, tropical deciduous forests, 10-800 m; Oct-Dec. **Fig. 2**

Suffruticose herbs or shrublets 1-3 m high. **Stems** sparsely pubescent with upwardly appressed, white, hairs. **Leaves** 5-7 cm long, 2-5 cm wide, opposite throughout; petioles 1-2 cm long, pubescent like the stems; blades narrowly to broadly ovate, pubescent beneath, mainly along the ribs, the surfaces markedly glandular-punctate; margins weakly crenulate to entire. **Capitulescence** a pyramidal, corymbose, panicle ca 10 cm long, 4-6 cm wide, the ultimate peduncles 1-2 mm long. **Involucres** composed of 5-7 lanceolate bracts, mostly 3-nervate, 1.5-2.0 mm long, ca 0.4 mm wide in 2-3 series, their apices sharply acute. **Receptacles** ca 0.2 mm across, glabrous. **Florets** 4-5 to a head; corollas glabrous, white, ca 1.5 mm long, the 5 lobes markedly beset with amber globules. **Style branches** clavate apically. **Anthers** included, ca 1 mm long, the appendages minute, ca as long as wide. **Achenes** hispid, 4-5 sided, ca 2 mm long; pappus of 20-30 persistent bristles ca 1.5 mm long.

This is a weakly differentiated taxon, largely distinguished from the typical variety by its smaller heads, smaller inner involucre bracts and shorter pappus. Most collections of var. *tonsa* have been gathered from relatively low elevations along the Pacific slopes; when occurring in close geographical proximity, the var. *palmeri* usually is found in more interior locations at higher sites. Intergradation appears to occur between the two taxa in regions of near contact.

KOANOPHYLLON POCHUTLANA B.L. Turner, sp. nov. **Fig. 1**

Resembling *Koanophyllon palmeri* (A. Gray) King & Rob. but the florets more numerous (10-11 per head vs 4-7), involucre bracts shorter (ca 2 mm long vs 3-4 mm), smaller achenes (ca 1.5 mm long vs 2.5-3.5 mm) and the pappus shorter (ca 1.5 mm long vs 2.5-3.5 mm).

TYPE: MEXICO. OAXACA: Mpio. San Miguel del Puerto, "1.63 km (LR) 154 [degrees] de rancho Dioon. Arroyo Arena," ca 790 m, 15 58 33.7 N, 96 6.53 W, 18 Nov 2003, *Alfredo Saynes V. 4078* [con A. Nava et al.] (holotype: TEX).

Known only by the type collection. **Fig. 2**

Scandent shrubs to 3 m high. **Stems** densely to sparsely pubescent with short, mostly up-curved, hairs. **Leaves** opposite, 6-9 cm long, 3-4 cm wide; petioles 1.0-1.5 cm long; blades ovate, 3-nervate from or near the base or nearly so. **Capitulescence** a terminal cymose panicle ca 11 cm high, 8 cm wide, the ultimate peduncles ca 1 mm long. **Heads** ca 5 mm high, the inner bracts ovate, ca 2 mm long, 0.8 mm wide, the apices mostly broadly acute and mostly 1-nervate. **Florets** 10-11 per head; corollas white, ca 5 mm long, glabrous, the 5 lobes atomiferous-glandular. **Achenes** black, ca 1.5 mm long, moderately pubescent with short, appressed, hairs; pappus of 30-40 tawny-white bristles ca 1.5 mm long.

Named for the Distrito Pochutla, where first collected.

The novelty appears to stand somewhere between *Koanophyllon palmeri* var. *tonsa* and *K. solidaginifolia*, having the more numerous florets and apically broad inner bracts of the latter, but the smaller heads and achenes of the former.

ACKNOWLEDGEMENTS

Distribution maps are based upon specimens on file at LL-TEX, those cited by McVaugh (1987), and USDA records available on web sites.

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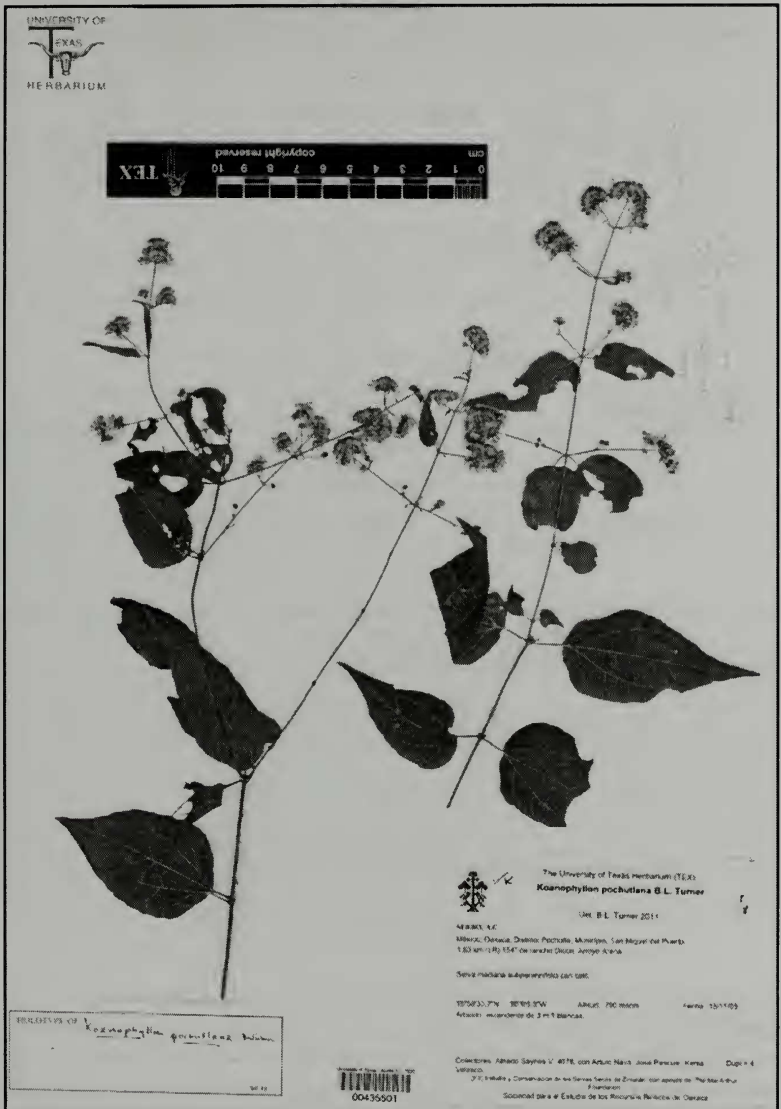


Fig. 1. *Koanophyllon pochutlana* (holotype).

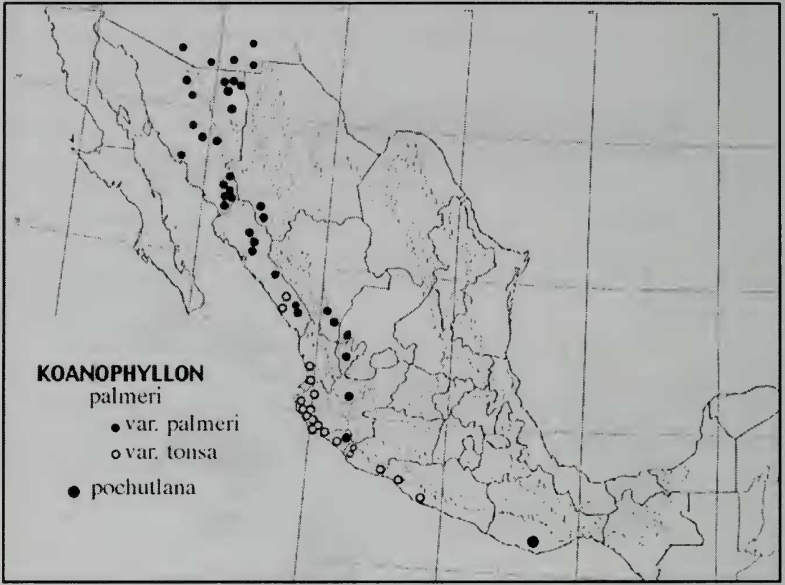


Fig. 2. Distribution of the *Koanophyllon palmeri* complex